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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,094	10/09/2003	Poul Bach	10313.200-US	9214
25908 7590 08/08/2007 NOVOZYMES NORTH AMERICA, INC. 500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110			EXAMINER METZMAIER, DANIEL S	
			ART UNIT 1712	PAPER NUMBER
			MAIL DATE 08/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/682,094	BACH ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March & 22 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 27-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 27-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/16/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-20 and 27-35 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 May 2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-20 and 27-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants do not provide basis for "substantially un-agglomerated particulate starting material". Said limitation is deemed to be new matter. Applicants are directed to page 6, lines 29 et seq, of the instant specification, which discloses the relative definition for "substantially avoiding

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agglomeration of particles". This is not to be equated with the limitation of "substantially un-agglomerated particulate starting material".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-20 and 27-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Guraya, US 6,737,099.

Guraya (figure 2, and 7a-12c; column 7, lines 50 et seq; particularly lines 57 et seq, 60 et seq and 64; examples and claims) discloses contacting a cereal flours with aqueous media to form a slurry followed by deagglomeration of the starch granules by subjecting said slurry to high shearing via a microfluidizer and subsequently sizes the particles.

Guraya (column 7, lines 50 et seq) discloses the starting particle size may be up to 250 microns and said starting materials may be partially processed by treatment with an enzyme or alkali solvents. The enzyme would be expected to exist in the materials until consumed and reads on the claims which are open to other ingredients and lack any concentration limitations. Furthermore, said partially processed starches would be expected to contain at least trace amounts of dissolved sugar.

Guraya (column 8, lines 32 et seq) teaches subsequent to microfluidization the deagglomerated material is subjected to density based separation and optionally size-separation between the microfluidization and the density based separation. The claims do not exclude further steps.

The particles processed in the Guraya process would have inherently had a higher average particle strength than the starting material as a necessary result of deagglomerating. It is reasonable to conclude the deagglomerated particles that are individual granules have a cohesive force binding the granule, which is more

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homogeneous and stronger than the cohesive force of the agglomerated particles based on their much lower points of contact.

To the extent the Guraya reference differs from the claims in the sufficiency of the process in a single example or the purpose of processing the materials or the density of the materials, Guraya teaches each of the process steps for their advantageous function. It would have been obvious to one having ordinary skill in the art at the time of applicants' invention to employ said process step for the functions taught in the Guraya reference. Some variation of the process as taught in the Guraya reference would have been within the level of one having ordinary skill in the art at the time of applicants' invention for the advantage of forming deagglomerated particles of uniform size.

Guraya (column 9, lines 12 et seq) further teaches coating the particles produced in the Guraya process with protein or other ingredients. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ conventional ingredients such proteins and other conventional ingredients to increase the density of the particles and thus also the strength thereof.

Furthermore, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ conventional ingredients such enzyme granules, proteins, and other conventional ingredients in the conventional deagglomerating process of Guraya for the advantage of deagglomerating the particles for ease of use and stability.

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8. Claims 1-20 and 27-35 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USA Secretary of Department of Agriculture, WO 02/078457. WO 02/078457 corresponds to US 6,737,099 relied on above. WO 02/078457 is deemed to have the same disclosure but is prior art under 35 USC 102(a). The basis for this rejection is otherwise the same as above and said above basis based on the disclosure is incorporated herein.

9. Claims 1-4, 10, 13-16, 19-20 and 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodokian, US 5,928,577. Kodokian (abstract, examples, and claims) discloses forming spherical particles. See paragraph bridging columns 5 and 6 regarding separation.

To the extent the Kodokian reference differs from the claims in the characterization of the shear rate substantially avoiding agglomeration or a specific shear rate.

Kodokian (column 5, lines 55-64) teaches the shear rate has little effect on size as long as equilibrium can be reached.

Applicants process step of subjecting to high shear at a rate substantially avoiding agglomeration would have been implicit to the processes of the Kodokian reference. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ high shear rate and particle classification for the advantage of producing the desired particle size.

Response to Arguments

10. Applicant's arguments filed 22 May 2007 have been fully considered but they are not persuasive.

11. Applicants (page 7) assert the Guraya reference differs from the claims in that the applicants employ un-agglomerated starting materials. This has not been deemed persuasive for the following reasons.

Initially, applicants do not define substantially unagglomerated starting material in the instant specification quantitatively. It therefore takes its plain meaning, which would be greater than 50 % of the particles are unagglomerated.

Setting aside the fact that applicants do not track individual particles within the compositions as agglomerated and un-agglomerated, the agglomeration must be a summation of the total particles before and after processing. Applicants' claims do not set forth the specific degree of agglomeration but the relative un-agglomerated particles before and after processing.

Furthermore, the claims do not require the use of granulated and/or dry particles or what are the materials of said particles.

The Guraya reference discloses de-agglomeration. At least some of the starting particles would be in un-agglomerated form. Since the Guraya reference teaches de-agglomerating, the un-agglomerated particles after processing would be expected to exceed the unagglomerated particles before processing. Said amendment does not distinguish said reference so that more than 80 %, preferably 85 %, more preferably more than 90 %, more preferably more than 95 %, more preferably more than 98% of the un-agglomerated particles remain un-agglomerated. By definition, a de-agglomerating process results in a higher level of un-agglomerated particles at the end of the process than the level at the start of the de-agglomerating process.

Applicants (page 5) assert the Guraya reference does not teach avoiding agglomeration. This has not been deemed persuasive since that is the point or purpose of the de-agglomerating step of the Guraya reference process.

Applicants (page 5) assert the Guraya reference does not teach a high shear process in the range of 0.5 to 3 s^{-1} of claim 18. This has not been deemed persuasive since the Guraya reference teaches high shearing action via a microfluidizer and applicants have not shown said shear rate to distinguish the process.

Furthermore, applicants claimed process is not clearly claimed as a post-treatment of granulated material. Therefore, the process reads on any two points in the de-agglomerating process, which would include deagglomerated particles and maintain greater than 80 % of said particles in the deagglomerated state. Applicants' claims are open to further steps in the process such as substantial deagglomerating followed by continued mixing for any time period.

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12. Applicants (page 8) assert the Guraya reference lacks a teaching of subjecting substantially un-agglomerated starting materials to high shear. Since the Guraya reference clearly subject the materials therein to high shear, it is concluded that applicants are asserting the Guraya reference lacks a teaching of "substantially un-agglomerated starting materials". This has been addressed above as applicants do not quantify substantially un-agglomerated starting materials. This clearly reads on greater than 50% of the particles are un-agglomerated. This is clearly disclosed and/or at least suggested in the Guraya reference.

13. Applicants comments regarding Guraya reference, WO 02/078457, have been addressed regarding the Guraya reference, US 6,737,099.

14. Applicant's arguments with respect to Kodokian have not been deemed persuasive since the recent KSR decision forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. Please see the Board of Appeals decision *Ex parte Smith*, USPQ2d, slip op at 20, (Bd. Pat. App. & Interf. June 25, 2007) (citing *KSR*, 82 USPQ2d at 1396) (available at <http://www.uspto.gov/web/offices.dcom.bpai/prec/fd071925.pdf>). There is not indication that Kodokian employs other than substantially un-agglomerated particles as starting materials in making the compositions therein.

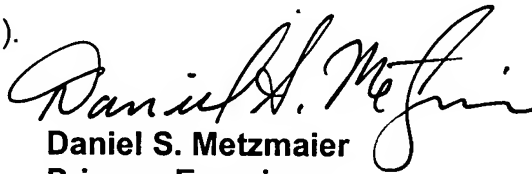
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM